



## PLANTING TECHNIQUES FOR TREES AND SHRUBS

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A properly planted tree or shrub will be more tolerant of adverse conditions and require much less management than one planted incorrectly. Planting technique impacts water quality as it minimizes water, fertilizer and pesticide use. When making decisions on planting techniques, one should consider how the plant was grown in the nursery, the plant's drainage requirements, the soil type and drainage characteristics, and the availability of irrigation water. The plant should be specifically appropriate to the site, or the site should be amended to specifically fit the plant.

**The Challenge:** Horticulture researchers have estimated that 75% of the roots may be lost when digging field-grown nursery stock. Cultural practices by the nurseryman, such as root pruning, irrigation, fertilization, root-ball configuration, and digging techniques, influence the percentage of harvested roots. Water stress, due to removal of most of the water-absorbing roots, is the primary cause of transplant failure. Most water absorption capability within a transplanted root-ball results from very small diameter roots. These fragile roots are the first to suffer from excess water loss in newly transplanted landscape plants.

**Sources of Plant Material:** Landscape contractors and home gardeners can choose from a wide variety of plant material in

North Carolina. Plants are grown by various production methods, e.g. bare-root, balled and burlapped, fabric container and plastic container. Some large landscape trees are mechanically dug with a tree-spade and placed in wire baskets. Each of these harvesting and growing techniques is acceptable, but requires a specific planting and management technique.

**Bare-root Plants:** Advantages of planting bare-root plants are mostly economical. Plants are less expensive to produce because of the ease of harvesting, storing and shipping. Many species respond well to bare-root harvesting. A greater portion and longer roots are retained after harvesting and roots are easily inspected at planting time. Damaged roots can be trimmed and girdling roots can be removed before planting. Bare-root plants should be planted while they are completely dormant. Landscape-sized bare-root trees usually require staking.

**Balled and Burlapped Plants:** Larger landscape plants are traditionally harvested as "balled and burlapped" (B&B). A major advantage of B&B plants is that soil types can be matched, thereby reducing any interface problems that might inhibit water movement between the rootball and surrounding soil of the landscape site. There is an acceptable, standardized formula for sizing rootballs, which is the

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